

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A device for detecting the corrosion induced by a medium, ~~characterized in that it comprises~~ comprising a chamber (5) closed by a closing disc (4) made of such a material such that ~~said the~~ disc becomes permeable to ~~said the~~ medium once corroded by ~~said the~~ medium; and means for measuring ~~the a~~ refractive index of the fluid present in the chamber.

2. (currently amended) A device as claimed in claim 1, wherein ~~said the~~ measuring means ~~comprise for measuring~~ comprises a light source (10) and a photodetector (11).

3. (currently amended) A device as claimed in ~~any one of claims~~ claim 1 ~~or 2~~, wherein ~~said refractive index measuring the~~ means for measuring comprise at least one optical fibre ~~fibre~~ fiber portion.

4. (currently amended) A device as claimed in claim 3, wherein one end of the optical fibre ~~fibre~~ fiber is ~~close~~ adjacent to the disc.

5. (currently amended) A device as claimed in ~~any one of the previous claims~~ claim 1, wherein ~~said the~~ chamber contains air.

6. (currently amended) A device as claimed in ~~any one of the previous claims~~ claim 1, wherein ~~said the~~ disc is connected to a support withstanding the pressure of the ~~corrosive~~ medium.

7. (currently amended) A device as claimed in claim 6, wherein ~~said the~~ support is permeable to said medium.

8. (currently amended) A device as claimed in ~~any one of claims~~ claim 1 to 5, comprising means for balancing ~~the pressure on either side~~ sides of the said disc.

9. (currently amended) A device as claimed in ~~any one of the previous claims~~ claim 1, wherein the ~~refractive index measuring means~~ for measuring is are included in ~~said the~~ chamber.

10. (currently amended) A device as claimed in claim 9, comprising at least one of the ~~following measurement transmission means~~ mechanism:

–~~waves (radio, ultrasonic, electromagnetic),~~

–an optical fibre~~fiber, and~~

–an electric conductor.

11. (new) A device as claimed in claim 2, wherein the means for measuring comprise at least one optical fiber portion.

12. (new) A device as claimed in claim 11, wherein one end of the optical fiber is adjacent to the disc.

13. (new) A device as claimed in claim 2, wherein the chamber contains air.

14. (new) A device as claimed in claim 3, wherein the chamber contains air.

15. (new) A device as claimed in claim 4, wherein the chamber contains air.

16. (new) A device as claimed in claim 11, wherein the chamber contains air.

17. (new) A device as claimed in claim 12, wherein the chamber contains air.

18. (new) A device as claimed in claim 2, comprising means for balancing pressure on sides of the disc.

19. (new) A device as claimed in claim 3, comprising means for balancing pressure on sides of the disc.

20. (new) A device as claimed in claim 4, comprising means for balancing pressure on sides of the disc.

21. (new) A device as claimed in claim 5, comprising means for balancing pressure on sides of the disc.

22. (new) A device as claimed in claim 13, comprising means for balancing pressure on sides of the disc.

23. (new) A device as claimed in claim 14, comprising means for balancing pressure on sides of the disc.

24. (new) A device as claimed in claim 15, comprising means for balancing pressure on sides of the disc.

25. (new) A device as claimed in claim 16, comprising means for balancing pressure on sides of the disc.

26. (new) A device as claimed in claim 17, comprising means for balancing pressure on sides of the disc.